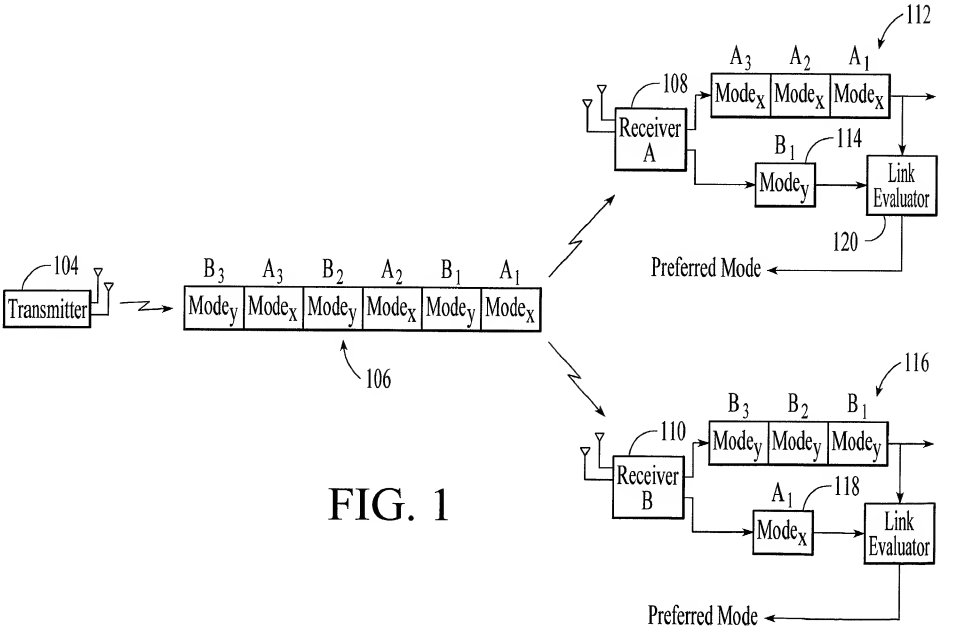
112
A3 A2 A1
108
Mode_X Mode_X Mode_X
Receiver A
B1
114
Mode_y
Link Evaluator
120
Preferred Mode
104
Transmitter
B3 A3 B2 A2 B1 A1
Mode_y Mode_X Mode_y Mode_X Mode_y Mode_X
106
116
B3 B2 B1
110
Mode_y Mode_y Mode_y
Receiver B
A1
118
Mode_X
Link Evaluator
Preferred Mode

FIG. 1

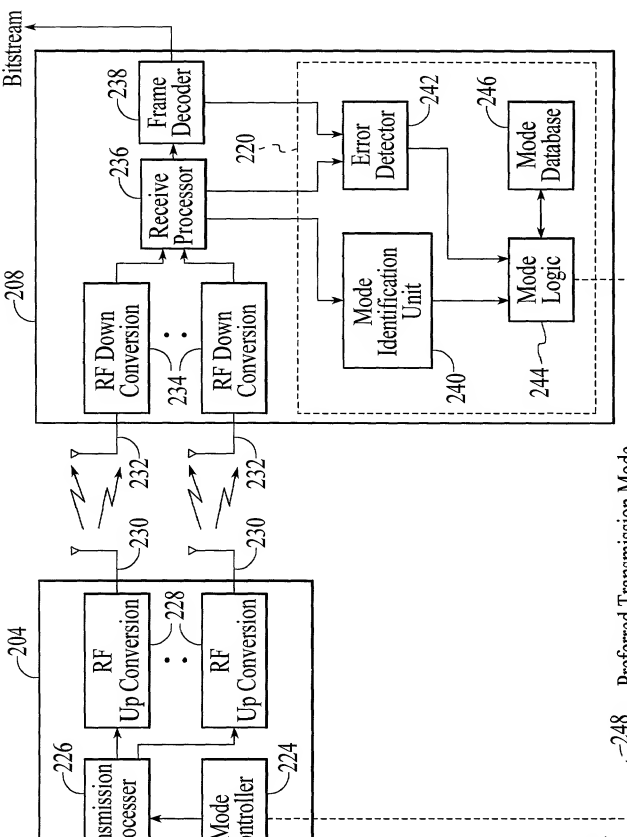
Bitstream
204
Transmission Processer
226
Mode Controller
224
RF Up Conversion
228
RF Up Conversion
230
230
232
232
208
RF Down Conversion
234
RF Down Conversion
Receive Processor
236
Frame Decoder
238
220
Error Detector
242
Mode Identification Unit
240
Mode Logic
244
Mode Database
246
Bitstream
248
Preferred Transmission Mode

FIG. 2

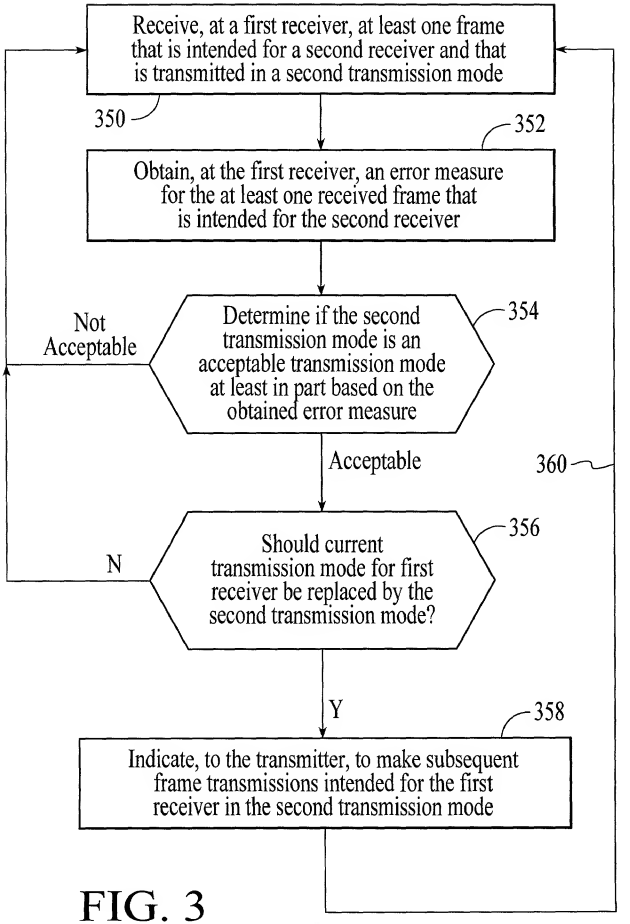
Receive, at a first receiver, at least one frame that is intended for a second receiver and that is transmitted in a second transmission mode
350
352
Obtain, at the first receiver, an error measure for the at least one received frame that is intended for the second receiver
Not Acceptable
Determine if the second transmission mode is an acceptable transmission mode at least in part based on the obtained error measure
354
Acceptable
360
Should current transmission mode for first receiver be replaced by the second transmission mode?
356
N
Y
358
Indicate, to the transmitter, to make subsequent frame transmissions intended for the first receiver in the second transmission mode

FIG. 3

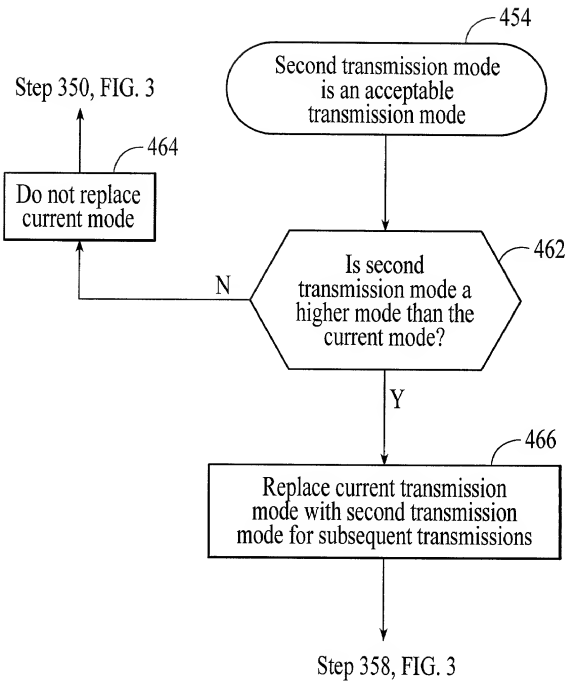
454
Second transmission mode is an acceptable transmission mode
Step 350, FIG. 3
464
Do not replace current mode
462
Is second transmission mode a higher mode than the current mode?
N
Y
466
Replace current transmission mode with second transmission mode for subsequent transmissions
Step 358, FIG. 3

FIG. 4

Receiver A Example Mode Cycles				
Cycle	Current Mode	Eavesdrop mode that is acceptable	Mode Ranking	Mode Decision
1	Mode 4	Mode 2	Mode 4 > Mode 2	Mode 4
2	Mode 4	Mode 5	Mode 4 < Mode 5	Mode 5
3	Mode 5	Mode 7	Mode 5 < Mode 7	Mode 7
4	Mode 7	Mode 3	Mode 7 > Mode 3	Mode 7
5	Mode 7	Mode 6	Mode 7 > Mode 6	Mode 7
6	Mode 7	-mode lowered	to mode 4 -	
7	Mode 4	Mode 5	Mode 4 < Mode 5	Mode 5
8	Mode 5	Mode 8	Mode 6 < Mode 8	Mode 8
9	Mode 8	Mode 7	Mode 8 < Mode 7	Mode 8
10	Mode 8			

FIG. 5

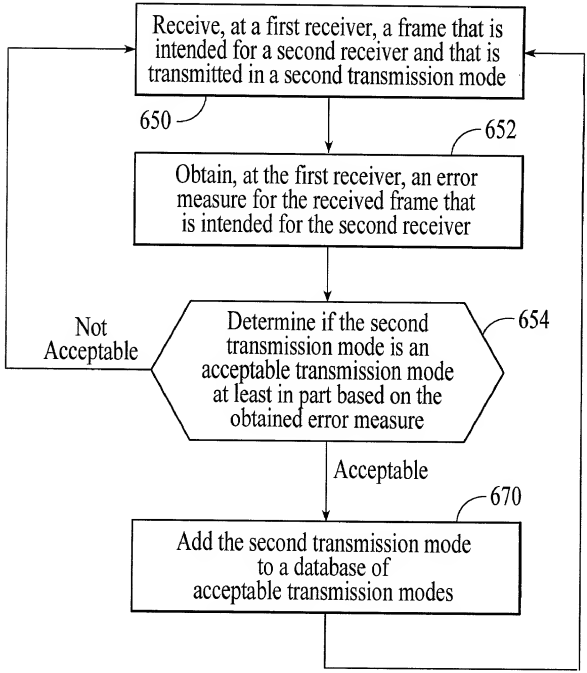
Receive, at a first receiver, a frame that is intended for a second receiver and that is transmitted in a second transmission mode
650
652
Obtain, at the first receiver, an error measure for the received frame that is intended for the second receiver
Not Acceptable
Determine if the second transmission mode is an acceptable transmission mode at least in part based on the obtained error measure
654
Acceptable
670
Add the second transmission mode to a database of acceptable transmission modes

FIG. 6

	Ranking of acceptable modes	Running BER
	8	0.0075
	6	0.0080
	5	0.0041
Current Mode Pointer ⟶	4	0.0012
	3	0.0008
	1	0.0003

Database of Acceptable Modes

FIG. 7

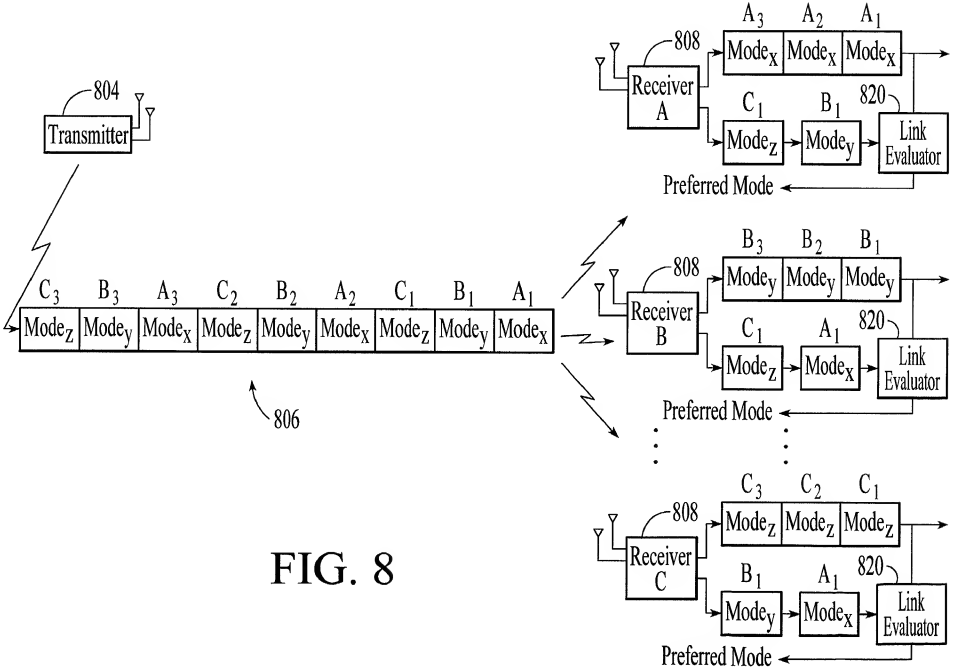
804
Transmitter
C3 B3 A3 C2 B2 A2 C1 B1 A1
ModeZ ModeY ModeX ModeZ ModeY ModeX ModeZ ModeY ModeX
806
808
Receiver A
A3 A2 A1
ModeX ModeX ModeX
C1 B1
ModeZ ModeY
820
Link Evaluator
Preferred Mode
808
Receiver B
B3 B2 B1
ModeY ModeY ModeY
C1 A1
ModeZ ModeX
820
Link Evaluator
Preferred Mode
808
Receiver C
C3 C2 C1
ModeZ ModeZ ModeZ
B1 A1
ModeY ModeX
820
Link Evaluator
Preferred Mode

FIG. 8